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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 37

Application Number: 08/879,322
Filing Date: June 20, 1997
Appellants: HODGSON ET AL.

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Daniel M. Riess
For Appellant

MAILED

EXAMINER'S ANSWER

JAN 24 2003

Technology Center 2600

This is in response to the appeal brief filed.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1-10 and 12-20 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,818,953	QUEISSEER et al	October 1998
4,844,937	WIKINSON et al	July 1989
5,546,475	BOLLE et al	August 1996
5,845,002	HECK et al	December 1998
4,975,863	SISTLER et al	December 1990

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

10.1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10.2. Claims 1, 3-6 and 12 are rejected under 35 US.C. 103(a) as being unpatentable over Queisser et al (U.S. 5,818,953) in view of Wilkinson et al (U.S. 4,844,937).

Regarding Claim 1, Queisser et al disclose an apparatus for measurement of the fruit particles comprising:

a substantially opaque cabinet (Figure 1; Column 3, Lines 63-67, Column 4, Lines 1-3);

a sample tray adapted to receive a fruit particle (Figure 1; Column 5, Lines 34-41).

The inspection tray 56 serves as a container for receiving fruit particles. Tray 56 is comprised of multiple parallel grooves 58 separated by parallel ridges 60 which is a

solid structure capable of receiving any type of fruit particles within any kind of fruit fillings, toppings, dairy products or cooked products.);

a camera in the upper portion of said cabinet for taking an image of the fruit particles (Figure 1; Column 4, Lines 14-16);

a light source in said cabinet (Figure 1; Column 4, Lines 21-22); and a computer with image analyzing software (Figure 2; Column 4, Lines 27-67, Column 5, Lines 1-11). Queisser et al disclose the sample tray adapted to receive a fruit matrix (Figures 1 and 4A-B. Tray 56 receives a matrix (two-dimensional arrangement) of food products.).

The fruit particles processed in Queisser et al invention is not in a sugar matrix, a starch matrix or a sugar and starch matrix.

Measurement of the fruit particles in a matrix without removing the fruit particles from the matrix is well known in the art as disclosed by Wilkinson et al.

Wilkinson et al disclose the process of measurement of the snack food products made from corn materials in a uniform starch matrix of horny endosperm of the corn kernel by evaluating the micrograph images of the starch matrix of the cooked corn(Figures 2B-2C; Examples 1-3; Column 5, Lines 48-56; Column 11, Lines 6-36.

The product being scanned comprises "**a very uniform matrix of gelatinized starch from the horny endosperm of corn**".).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al invention in accordance with the teachings of Wilkinson et al to analyze the image of fruit particles within a matrix selected from a **starch matrix** or a sugar matrix or a sugar and starch matrix, wherein the fruit matrix

being of the kind used in fruit fillings, toppings, dairy products or **cooked food products** because it will expand the versatility of the measurement of the food particles and will encompass the inspection of a large variety of the products in food industry by merely implementing the conventional image processing.

Regarding Claim 3, Queisser et al further disclose an apparatus for measurement of the fruit particles in a matrix wherein the light source comprises an incident light source within the cabinet ((Figure 1; Column 4, Lines 21-22).

Regarding Claim 4, Queisser et al do not specifically disclose the apparatus of Claim 1 wherein the light source comprises switches for adjusting the intensity of the light. Light sources are inherently incorporated with switches for turning the lights on and off. Alternatively, utilizing switches for adjusting the intensity of a light in a predetermined range is extremely well known in the art (Official Notice.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination to provide an apparatus for measurement of the fruit particles in a matrix wherein the light source comprises switches for adjusting the intensity of the light because it will provide the capability of obtaining different images of samples under various illumination conditions for enhancing image quality and increasing measurement accuracy.

Regarding Claim 5, Queisser et al disclose the apparatus of Claim 1 wherein the light source comprises multiple light-producing sources (Figure 1; Column 5, Lines 52-57). Queisser et al do not explicitly disclose the apparatus of Claim 1 comprising independently-adjustable light-producing sources. Light sources are inherently

incorporated with switches for turning the lights on and off. Alternatively, utilizing switches for adjusting the intensity of lights in a predetermined range is extremely well known in the art (Official Notice.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination to provide an apparatus for measurement of the fruit particles in a matrix wherein the light source comprises switches for adjusting the intensity of the light because it will provide the capability of obtaining different images of samples under various illumination conditions for enhancing image quality.

Regarding Claim 6, Queisser et al do not explicitly disclose the apparatus of Claim 1 wherein the inside of the cabinet is non-reflecting. Characteristics of the inside surface of a cabinet is the decision based upon designer's preference. Appropriate painting of the inside of a cabinet will result in a non-reflecting surface routinely practiced in the art (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination to provide a cabinet with non-reflecting inside surface because it will minimize light scattering inside the cabinet and will prevent degrading of the image quality due to light scattering.

With regards to Claim 12, arguments analogous to those presented for Claim 1 are applicable to Claim 12. Queisser et al further disclose illuminating the food particles so that an image may be obtained in which food particles are distinguishable from the background (Column 5, Lines 50-65); capturing a computer-readable image of at least a

portion of said illuminating fruit particles (Figure 3, Step 70); and using a computer and an image analyzing software program to analyze said image and obtain information concerning said fruit particles (Figures 2 and 3; Column 13, Lines 4-60, Column 14, Lines 1-8).

10.3. Claims 2, 7-10, 13, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable by Queisser et al (U.S. 5,818,953) further in view of Wilkinson et al (U.S. 4,844,937) and Bole et al (U.S. 5,546,475).

Regarding Claim 2, neither Queisser et al nor Wilkinson et al disclose the apparatus of Claim 1 wherein said light source comprises a light box in the lower portion of said cabinet.

Bole et al disclose a produce recognition system wherein the light source comprises a light box in the lower portion of the cabinet (Figure 4; Column 9, Lines 29-50).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination according to the teachings of Bole et al to provide a light box in the lower portion of the cabinet to enclose the lighting fixtures because it will protect the lights against undesirable environmental conditions and mechanical damages.

Regarding Claim 7, neither Queisser et al nor Wilkinson et al disclose the apparatus of Claim 1 wherein the sample tray comprises a light-transmitting bottom.

Bole et al disclose a sample tray comprising light transmitting bottom (FIG. 4, Transparent support 405; Column 9, Lines 44-46).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination according to the teachings of Bole et al to provide a light transmitting (transparent) tray for supporting fruit particles in a matrix because it is a conventional method of illuminating materials on a translucent support routinely implemented in the art that will provide capability of illuminating the fruit particles in the tray for further image processing.

Regarding Claim 8, Queisser et al, Wilkinson et al and Bole et al do not disclose the apparatus of Claim 2 wherein said apparatus further comprises a light box cover. Configuration of the internal parts of the cabinets is based upon the discretion of the designer. The cover for an internal component such as a light box is considered one of the basic elements in construction of the cabinets (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al, Wilkinson et al and Bole et al combination to provide a cabinet with cover for the light box because it will enclose components with distinct functions in separate segments and will protect the components against undesirable environmental conditions and mechanical damages.

Regarding Claim 9, Queisser et al further disclose an apparatus for measurement of the fruit particles in a matrix wherein the apparatus further comprises a sample tray guide (Figure 1; Column 4, Lines 10-14).

With regards to Claim 10, arguments analogous to those presented for Claims 1, 4, 6 and 7 are applicable to Claim 10.

Regarding Claim 13, neither Queisser et al nor Wilkinson et al disclose the process of Claim 12 wherein said illuminating of the fruit particles in a matrix is from below the sample tray, and said illuminating is therethrough in obtaining said image.

Bole et al disclose a produce recognition system wherein illuminating the particles in a matrix is from below the sample tray, and said illuminating is therethrough in obtaining said image (Figure 4, light source 110, transparent support 405; Column 9, Lines 39-51).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination in accordance with Bole et al teachings to illuminate the fruit particles in a matrix from below the sample tray, and the illuminating is therethrough in obtaining said image because it is a conventional method of illuminating materials on a translucent support routinely implemented in the art.

Regarding Claim 14, Bole et al further disclose a produce recognition system wherein the illuminating is from below only (Figure 4, Light 110; Column 9, Lines 29-37. As depicted in Figure 4, illuminating is from below only. The transparent support 405 is not illuminated both from above and from below.).

With regards to Claim 17, arguments analogous to those presented for Claim 13 are applicable to Claim 17.

With regards to Claim 18, arguments analogous to those presented for Claim 14 are applicable to Claim 18.

10.4. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable by Queisser et al (U.S. 5,818,953) further in view of Wilkinson et al (U.S. 4,844,937) and Sistler et al (U.S. 4,975,863).

Regarding Claim 15, neither Queisser et al nor Wilkinson et al disclose the process of Claim 12 wherein the placing occurs spatially between the illuminating location and the capturing location.

Sistler et al disclose a system and process for analysis of particles wherein placing a sample tray occurs spatially between the illuminating location and the capturing location (Figure 5. Transparent plate 23 is located between light source 28 and camera 15.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al and Wilkinson et al combination in accordance with Sistler et al teachings to place a sample tray spatially between the illuminating location and the capturing location because it is a standard procedure for holding the fruit particles for capturing the particles image routinely implemented in the art.

With regards to Claim 19, arguments analogous to those presented for Claim 15 are applicable to Claim 19.

10.5. Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable by Queisser et al (U.S. 5,818,953) further in view of Wilkinson et al (U.S. 4,844,937), Sistler et al (U.S. 4,975,863) and Bole et al (U.S. 5,546,475).

Regarding Claim 16, Queisser et al, Wilkinson et al and Sistler et al do not disclose the process of Claim 15 wherein the illuminating has no source which is between the sample tray and the capturing location.

Bole et al disclose a produce recognition system wherein the illuminating has no source, which is between the sample tray and the capturing device (Figure 4. As depicted in Figure 4, there is no illuminating source between Camera 120 and Tray 403.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Queisser et al, Wilkinson et al and Sistler et al combination in accordance with Bole et al teachings to consider no illuminating source which is between the sample tray and the capturing device because it will simplify illumination system and will prevent scattered illumination problems.

With regards to Claim 20, arguments analogous to those presented for Claim 16 are applicable to Claim 20.

10.6. Claims 1-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable by Heck et al (U.S. 5,845,002) further in view of Wilkinson et al (U.S. 4,844,937) and Sistler et al (U.S. 4,975,863).

Regarding Claim 1, Heck et al disclose an apparatus for measurement of the fruit particles comprising:

a substantially opaque cabinet (Figures 1 and 2a, optic housing 16; Column 7, Lines 65-67);

a camera in the upper portion of said cabinet for taking an image of the fruit particles (Figures 1 and 2a, camera 30; Column 8, Lines 53-57);

a light source in said cabinet (Figures 1 and 2a, light sources 22 and 24; Column 8, Lines 16-20);

a device for holding the fruit (Figures 1 and 2a, inspection station 18; Column 7, Lines 65-67); and a computer with image analyzing software (Figure 1, computer 34; Column 9, Lines 6-21).

Heck et al does not specifically disclose a sample tray adapted to receive fruit particles.

Sistler et al disclose a particle examination system comprising a sample tray for supporting fruit particles (Figure 5, sample tray 23).

Neither Heck et al nor Sistler et al disclose the sample tray adapted to receive a fruit matrix selected from a starch matrix or a sugar matrix or a sugar and starch matrix, said fruit matrix being of the kind used in fruit fillings or cooked food products.

Measurement of the fruit particles in a matrix without removing the fruit particles from the matrix is well known in the art as disclosed by Wilkinson et al.

Wilkinson et al disclose the process of measurement of the snack food half products made from corn materials in a uniform stark matrix of horny endosperm of the corn kernel by evaluating the micrograph images of the starch matrix of the cooked corn (Figure c; Examples 1-3; Column 5, Lines 48-56; Column 11, Lines 6-36. The product being scanned comprises "**a very uniform matrix of gelatinized starch from the horny endosperm of corn**".)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al and Sistler et al combination in accordance with the teachings of Wilkinson et al to analyze the image of fruit particles within a matrix selected from a starch matrix or a sugar matrix or a sugar and starch matrix, wherein the fruit matrix being of the kind used in fruit fillings, toppings, dairy products or cooked food products because it will expand the versatility of the measurement of the food particles and will encompass the inspection of a large variety of the products in food industry by merely implementing the conventional image processing.

Regarding Claim 2, Heck et al further disclose the apparatus of Claim 1 wherein said light source comprises a light box in the lower portion of said cabinet (Figures 1 and a, light sources 22 and 24).

Regarding Claim 3, Heck et al further disclose an apparatus for measurement of the fruit particles wherein the light source comprises an incident light source within the cabinet (Figure a, light sources 22 and 24).

Regarding Claim 4, Heck et al, Sistler et al and Wilkinson et al do not specifically disclose the apparatus of Claim 1 wherein the light source comprises switches for adjusting the intensity of the light. Light sources are inherently incorporated with switches for turning the lights on and off. Alternatively, utilizing switches for adjusting the intensity of a light in a predetermined range is extremely well known in the art (Official Notice.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al, Sistler et al and Wilkinson et al invention to

provide an apparatus for measurement of the fruit particles in a matrix wherein the light source comprises switches for adjusting the intensity of the light because it will provide the capability of obtaining different images of samples under various illumination conditions for enhancing image quality and increasing measurement accuracy.

Regarding Claim 5, Heck et al disclose the apparatus of Claim 1 wherein the light source comprises multiple light-producing sources (Figure a, light sources 22 and 24).

Heck et al, Sistler et al and Wilkinson et al do not explicitly disclose the apparatus of Claim 1 comprising independently-adjustable light-producing sources. Light sources are inherently incorporated with switches for turning the lights on and off. Alternatively, utilizing switches for adjusting the intensity of lights in a predetermined range is extremely well known in the art (Official Notice.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al, Sistler et al and Wilkinson et al invention to provide an apparatus for measurement of the fruit particles in a matrix wherein the light source comprises switches for adjusting the intensity of the light because it will provide the capability of obtaining different images of samples under various illumination conditions for enhancing image quality and increasing measurement accuracy.

Regarding Claim 6, Heck et al, Sistler et al and Wilkinson et al do not disclose the apparatus of Claim 1 wherein the inside of the cabinet is non-reflecting. Characteristics of the inside surface of a cabinet is the decision based upon designer's preference. Appropriate painting of the inside of a cabinet will result in a non-reflecting surface routinely practiced in the art (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al, Sistler et al and Wilkinson et al invention to provide a cabinet with non-reflecting inside surface because it will minimize light scattering inside the cabinet and will prevent degrading of the image quality due to light scattering.

Regarding Claim 7, Sistler et al further disclose the apparatus of Claim 1 wherein the sample tray comprises a light-transmitting bottom (Column 6, Lines 2-8).

Regarding Claim 8, Heck et al, Sistler et al and Wilkinson et al do not disclose the apparatus of Claim 2 wherein said apparatus further comprises a light box cover. Configuration of the internal parts of the cabinets is based upon the discretion of the designer. The cover for an internal component such as a light box is considered one of the basic elements in construction of the cabinets (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al, Sistler et al and Wilkinson et al invention to provide a cabinet with cover for the light box because it will enclose components with distinct functions in separate segments and will protect the components against undesirable environmental conditions and mechanical damages.

Regarding Claim 9, Heck et al, Sistler et al and Wilkinson et al do not disclose an apparatus for measurement of the fruit particles wherein the apparatus further comprises a sample tray guide. Configuration of the internal parts of the cabinets is based upon the discretion of the designer. Conventionally, cabinets are manufactured of modular parts. A cover with guides for installation of another component like a tray is

considered one of the normal elements in composite modular structure of the cabinets, and has been frequently installed in electrical distribution boards (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Heck et al, Sistler et al and Wilkinson et al invention to provide a cabinet with a sample tray guide because it is the conventional part for the installation of the removable components.

With regards to Claim 10, arguments analogous to those presented for Claims 1, 4, 6 and 7 are applicable to Claim 10.

With regards to Claim 12, arguments analogous to those presented for Claim 1 are applicable to Claim 12. Sistler et al further disclose illuminating the food particles so that an image may be obtained in which food particles are distinguishable from the background (Column 3, Lines 16-22); capturing a computer-readable image of at least a portion of said illuminating fruit particles (Figure 1; Column 3, Lines 23-36); and using a computer and an image analyzing software program to analyze said image and obtain information concerning said fruit particles (Figure 1; Column 3, Lines 37-49).

Regarding Claim 13, Sistler et al further disclose the process of Claim 12 wherein said illuminating of the fruit particles in a matrix is from below the sample tray, and said illuminating is therethrough in obtaining said image (Figure 5; Column 6, Lines 2-8).

Regarding Claim 14, Heck et al further disclose the process of Claim 13 wherein the illuminating is from below only (Figure a, Lights 22 and 24. As depicted in Figure a, illuminating is from below only.).

Regarding Claim 15, Sistler et al disclose the process of Claim 12 wherein the placing occurs spatially between the illuminating location and the capturing location (Figure 5. Transparent plate 23 is located between light source 28 and camera 15.).

Regarding Claim 16, Heck et al further disclose the process of Claim 15 wherein the illuminating has no source which is between the sample tray and the capturing location (Figure a. There is no source between camera 30 and station 18, which is utilized as a supporting tray.).

With regards to Claim 17, arguments analogous to those presented for Claim 13 are applicable to Claim 17.

With regards to Claim 18, arguments analogous to those presented for Claim 14 are applicable to Claim 18.

With regards to Claim 19, arguments analogous to those presented for Claim 15 are applicable to Claim 19.

With regards to Claim 20, arguments analogous to those presented for Claim 16 are applicable to Claim 20.

(11) Response to Argument

Appellants' arguments have been fully considered but they are not persuasive. The claim rejections on the prior arts of record are proper and will be maintained. The teachings of prior arts of record (Queisser et al in view of Wilkinson et al, and Heck et al in view of Wilkinson et al), are in the same field of endeavor, and properly obviate claimed invention of measurement of fruit particles within a sugar and/or starch matrix.

Regarding Appellants' argument on Page 5, that "Queisser et al does not even contain the words "fruit" or "fruit particles" within the four corners of the patent", the Examiner refers Appellants to the definition of "fruit" excerpted from Webster Dictionary as "a product of plant growth (as grain, vegetable, or cotton)". Considering present invention claim language reciting "measurement of fruit particles in cooked food products", Queisser et al teachings read the claimed invention. Queisser et al invention includes an optical characterization for grading food products and, in particular, potato products such as french fried potatoes (Queisser et al, Summary of Invention, Column 2, Lines 20-32).

It should be further noted that neither claim language nor the entire contents of present Application specification recites a particular type of fruit.

Furthermore, the optical characterization methodology of Queisser et al is also applicable to **processed foods** that encompasses non-dry food products such as fruit fillings, toppings, dairy products and cooked food products (Queisser et al, Column 4, Lines 6-9). This citation suggests measurement of fruit particles in a matrix.

On Pages 4 and 5, appellants argue that Queisser et al disclose nothing more than the camera computer imaging of french fries which are methodically and symmetrically lined up in the shaped grooves 58 (of tray 56) and are entirely different in nature, consistency and distribution from the imaged particles of present invention that are random in size, shape and distribution as claimed in Claim 1.

It is submitted that, on the contrary, french fries are clearly a starched product used in a cooked food product, as set forth in the claims. The claim broad language

does not recite any matter that directs to consistency and distribution of the particles in the measurement process. **Moreover, there is no limitation in the claimed invention that the fruit particles should be random in size, shape and distribution.**

Furthermore, the type of food being inspected, whether it is within a starch or sugar or a mixture of starch and sugar, is not critical to the operation of inspection or measurement system. The camera and computer with the imaging software in the inspection or measurement system will still operate as intended even if the food product is not within a starch or sugar product used for fruit fillings, toppings and dairy products. It is further emphasized that there is no indication in Queisser et al invention to limit the optical characterization methodology to french fries in dry condition.

The type of food being inspected is a design choice **especially since the present specification fails to disclose any definite image analysis specific to measurement of fruit particles within starch and/or sugar used in fruit fillings, toppings, dairy products or cooked food products.**

Concerning Appellants' arguments on Pages 4 and 5 stating that the grooved sample tray of Queisser et al would be unacceptable for use with fruit particle matrix of the present invention, it should be noted that Tray 56 utilized in Queisser et al invention is comprised of multiple parallel grooves 58 separated by parallel ridges 60 which is constructed of a one-piece solid structure as shown in cross-sectional area of the tray in Figure 4B, and is capable of receiving **any type of fruit particles** within a sugar matrix, a starch matrix or a sugar and starch matrix of kind of fruit fillings, toppings, dairy

products or cooked products when combined with the teachings of Wilkinson et al (secondary prior art of record).

For further clarification, it is submitted that Queisser et al invention disclose further limitations of claimed invention comprising:

- a substantially opaque cabinet (Figure 1, Inspection Chamber 16);
- a sample tray adapted to receive a fruit particle (Figure 1, Tray 56);
- a camera in the upper portion of the cabinet for taking an image of the fruit particles (figure 1, Camera 22);
- a light source in said cabinet (Figure 1, Light Sources 20, 71a and 71b); and
- a computer with image analyzing software(Figure 2, Computer 14);

as clearly indicated in the grounds of rejection of independent Claim1 (Item 10.2).

Additionally, as stated above the optical characterization methodology of Queisser et al is also applicable to **processed foods** that encompasses non-dry food products such as fruit fillings, toppings, dairy products and cooked food products (Queisser et al, Column 4, Lines 6-9). This citation suggests measurement of fruit particles in a matrix.

Consequently, Appellants' statement on Page 8, Lines 7-8 concerning the critical failure of Queisser et al invention is incorrect, and is not relevant.

On Pages 6 and 7, Appellants refer to Exhibits 1-5 as a support that fruit matrices are aqueous, gelled or liquid in nature. It is submitted that in addition to these exhibits, there are definitely numerous published documents and literatures concerning different

types of matrices. Obviously, since none of these documents are referred to in the present Application specification, nor have been submitted as an Information Disclosure Statement (Form PTO-1449), the teachings and content of these documents are not relevant to the present claimed invention. However, the exhibits teachings are not persuasive because they teach the same concept of matrix as shown in the secondary reference, Wilkinson et al, which discloses a gelatinized starch matrix.

Claim language simply recites measurement of fruit particles within a matrix selected from the groups consisting of a sugar matrix, or **starch matrix**, or sugar and starch matrix, said fruit matrix being of the kind used in fruit fillings, or toppings, or dairy products, or **cooked food products**.

Claim language does not narrow the matrices to aqueous, gelled or liquid matrices.

Wilkinson et al teachings are merely cited for disclosing the above-mentioned limitation concerning analysis of the fruit particles in a **starch matrix** used in **cooked food products** (Column 3, Lines 25-32, clearly disclose measurement of a food product comprising "**a very uniform matrix of gelatinized starch from the horny endosperm of corn**".).

It should be noted that appellants' arguments pertain to either Queisser et al or Wilkinson et al individually. However, the basis for rejection is on the combination of references. Thus, the combined teachings of Queisser et al and Wilkinson et al meet the claim limitations.

On Page 9, first and second Paragraphs, and on Page 10, Appellants argue that **the matrix of food product** of Wilkinson et al is a dry matrix and is not an aqueous, gelled or liquid matrix, and is "a relatively uniform matrix" in contrast to the randomly distributed fruit particles of the claimed invention.

It is submitted that the matrix of food product of Wilkinson et al is a gelatinized starch matrix and is not dry (Wilkinson et al, Column 3, Lines 25-32; Column 11, Lines 3-6). Furthermore, claim language does not recite a randomly distributed fruit particles within the sugar and/or starch matrix, neither claim language recites an aqueous or liquid matrix.

On Page 9, third Paragraph continued on Page 10, Appellants argue that **the matrix of food product** of Wilkinson et al is a single gelatinized starch matrix composition and the corn material is not in a distinctly different sugar or starch matrix.

It is submitted that, at the outset, claim language does not recite fruit particles are within a distinctly different sugar or starch matrix. Furthermore, Wilkinson et al also disclose fruit particles in a matrix of a different material (e.g., Wilkinson et al, Column 12, Lines 40-44. The food product contains 90 parts by weight of the corn reduction flour (fruit particles) and 10 parts by weight of pregelatinized tapioca starch.).

On Page 10, last Paragraph continued on Page 11, and page 11, first Paragraph, Appellants argue that the electron microscope procedure of Wilkinson et al is different from photo optic imaging procedure of the present invention.

It is asserted that, as it is well known to the skilled in the art, electron microscope scanning procedure is comprised of taking the image of the electrons reflected from the

surface under experiment by a capturing device such as a camera. The electron microscope scanning is definitely a photo optic imaging procedure. It is further submitted that there is no requirement that necessitates Wilkinson et al should further disclose the same claim limitations already disclosed by the primary prior art of record (Queisser et al) such as:

- a substantially opaque cabinet (Figure 1, Inspection Chamber 16);
- a sample tray adapted to receive a fruit particle (Figure 1, Tray 56);
- a camera in the upper portion of the cabinet for taking an image of the fruit particles (figure 1, Camera 22);
- a light source in said cabinet (Figure 1, Light Sources 20, 71a and 71b); and
- a computer with image analyzing software.

Wilkinson et al teachings are merely cited for disclosing analysis of the fruit particles in a **starch matrix used in cooked food products** (Column 3, Lines 25-32, clearly disclose analysis of a food product comprising “**a very uniform matrix of gelatinized starch from the horny endosperm of corn**”).

Appellants’ statement on Page 11, second Paragraph concerning “the Examiner admits that Queisser et al does not disclose the sample tray, as claimed, which receives a fruit matrix” is an intentional misinterpretation of the contents of the Office Action. As previously indicated Queisser et al disclose a sample tray capable of receiving fruit particles in a matrix based on the design of the tray (Tray 56 utilized in Queisser et al invention is comprised of multiple parallel grooves 58 separated by parallel ridges 60 which is constructed of a one-piece solid structure as shown in cross-sectional area of

the tray in Figure 4B, and is capable of receiving **any type of fruit particles** within a sugar matrix, a starch matrix or a sugar and starch matrix of kind of fruit fillings, toppings, dairy products or cooked products when combined with the teachings of Wilkinson et al (secondary prior art of record).).

Furthermore, there is a second rejection, Heck et al in view of Wilkinson et al on all claims (Item #5 under Issues).

In response to appellants' arguments On Page 11, last Paragraph continued on Page 12, it is submitted that Heck et al disclose an apparatus for analyzing fruit particles comprising:

a substantially opaque cabinet (Figures 1 and 2a, optic housing 16; Column 7, Lines 65-67);

a camera in the upper portion of said cabinet for taking an image of the fruit particles (Figures 1 and 2a, camera 30; Column 8, Lines 53-57);

a light source in said cabinet (Figures 1 and 2a, light sources 22 and 24; Column 8, Lines 16-20);

a device for holding the fruit (Figures 1 and 2a, inspection station 18; Column 7, Lines 65-67); and

a computer with image analyzing software (Figure 1, computer 34; Column 9, Lines 6-21).

Heck et al teachings in combination with Wilkinson et al teachings will meet claimed language. As previously stated the claimed language does not recite any food products which are random in distribution in the matrix, or any food which are in

aqueous, gelled or liquid matrix. Based on definition of object by Heck et al (Column 6, Lines 66-67, Column 7, Lines 1-10), Heck et al invention is applicable to any type of fruit (whether a whole fruit or a part of fruit) that can be sorted and classified according to the method and apparatus of the invention.

Consequently, based on the above-mentioned discussion, Appellants conclusion on first Paragraph of Page 12 are not persuasive. Combined teachings of prior arts of record, i.e., "Queisser et al and Wilkinson et al" or "Heck et al, Wilkinson et al and Sistler et al" meet claimed invention.

Appellants original Declaration Under Rule 131, filed May 23, 2000, and the Supplemental Declaration Under Rule 131, filed February 13, are considered ineffective to overcome Queisser et al reference as previously indicated in Office Actions Paper Numbers 16, 23 and 34. In addition to Appellants admission that Exhibit "F" has a date after the filing date of Queisser et al reference, as it was previously indicated, the Declaration Exhibits fail to provide evidence for the allegations in Paragraph 10 of the original Declaration and paragraphs 5-8 of the Supplemental Declaration, for establishing a reduction to practice of the instant invention prior to the effective date of Queisser et al reference.

Exhibit "G" of the Supplemental Declaration, merely refers to "attending imaging system demo representation" and "fruit sales representation". Memorandums attached to the original Declaration refer to "fruit retention" that is a well known procedure based on the instant Application Background acknowledgement, but not to the specific fruit particles within a sugar and/or starch matrix.

The Declaration Exhibits do not include any memorandums, notes, computer printouts, tables or graphs illustrating the details of the claimed measurement test on "fruit particles within a sugar and/or starch matrix", and do not meet the requirements of MPEP 715.07 because it lacks sufficient supporting data.

Finally, it is submitted that the claimed invention of the present application merely directs to capturing a picture of an item for further processing by a computer without any details concerning computerized processing. The present invention disclosure (including claims and drawings) does not include any details regarding image processing or image analysis of any kind specific to fruit particles, or starch and/or sugar matrix. In the absence of a detailed image processing, Appellants' invention is merely limited to capturing a picture of fruit particles in a matrix and is not considered novel, innovative and patentable.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
Mehrdad Dastouri

MEHRDAD DASTOURI
PATENT EXAMINER

January 15, 2003

Conferees

AA
Amelia Au

Jon Chang *JC*